REMARKS

This paper is responsive to the Office communication that was mailed on February 16, 2007 (the "Office Communication") and to the Office Action dated April 7, 2006 (the "Office Action"). This paper supplements Applicant's previous Response, dated August 7, 2006, under 37 C.F.R. § 1.111(a)(2)(D).

Claims 1-3, 5-10 and 12-31 were pending in the application prior to Applicant's previous Response. Claims 1, 3, 10, and 27 were amended, claims 32-41 were added and no claims were canceled in Applicant's previous Response. No further amendments are made in this paper.

Accordingly, claims 1-3, 5-10 and 12-41 are now pending.

Claims 1-3, 5-10 and 12-31 stand rejected.

Applicant respectfully submits that the claims are allowable in view of the following remarks and respectfully requests that the pending rejections be withdrawn.

Formal Matters

Applicant expresses gratitude for the Examiner's recognition of Applicant's previous Response, dated August 7, 2006, as a *bona fide* reply to the Office Action dated April 7, 2006. Applicant has supplemented the previous Response in the manner required by the Office Communication. This paper is thus submitted in accordance with 37 C.F.R. § 1.111(a)(2)(D).

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Rejection of Claims under 35 U.S.C. § 103

Claims 1-2, 5-10, 12-17, 19-22 and 24-30 stand rejected under 35 U.S.C. § 103(a) as

being unpatentable over U.S. Patent No. 6,292,802 issued to Kessenich et al. ("Kessenich") in

view of U.S. Patent No. 6,694,306 issued to Nishizawa et al. ("Nishizawa"). Claims 3, 18, 23

and 31 stand rejected under § 103(a) as being unpatentable over Kessenich in view of U.S. Patent

No. 6,772,150 issued to Whitman et al. ("Whitman"). Applicant respectfully submits that the

claims are allowable because the cited references do not provide a motivation for the proposed

combination of references and because the cited references, whether taken individually or in

combination, do not disclose each limitation of the pending claims.

Applicant's claim 1 reads as follows.

1. A method, comprising:

receiving search criteria from a graphical user interface generated by a computing device,
     wherein the search criteria includes at least one search keyword;

passing the received search criteria to a Virtual Business Component (VBC), the
     VBC representing a database as a business object;

invoking a search execution business service using the VBC;

searching the database for data records matching the search criteria using the search
     execution business service;

generating search results comprising of the data records matching the received search
     criteria; and

caching the search results to maintain persistency of the search results.

(Emphasis added.)

With regard to the limitations of "passing the received search criteria to a Virtual

Business Component (VBC)" and "invoking a search execution business service using the

VBC," the Office Action cites elements 106, 108, 109, 112, and 119 of Nishizawa's FIG. 1. In particular, the Office Action proposes on pp. 3 and 5 that Nishizawa's virtual table 119 corresponds to the VBC of Applicant's claim 1. The Office Action states on pp. 3 and 5 that in Nishizawa,

> the application manager (106) is querying and using (108 and 109) the virtual table manager (112) that in turn is accessing the virtual table (119) which reads on the using of the VBC to invoke a search service.

Applicant respectfully submits that the particular parts of the cited references that the Office Action has relied upon have not been designated as nearly as practicable, as required by 37 C.F.R. § 1.104(c)(2). In particular, the Office Action does not clearly indicate what feature of Nishizawa corresponds to the "search execution business service" of Applicant's claim 1. Nevertheless, the Applicant has made every effort to respond to the rejections outlined by the Examiner.

Various limitations of Applicant's claim 1 are not disclosed in the cited references. As a first example, **the Nishizawa virtual table 119 does not meet Applicant's limitation of a Virtual Business Component (VBC)**. According to Nishizawa, "a virtual table is a logical integration of multiple real databases and the columns in the virtual ta[b]le are mapped to the columns in multiple real databases." Nishizawa at 5:33-38.

In contrast, the VBC of Applicant's claim 1 represents a database as a business object. Such a limitation is not described in Nishizawa for the virtual table 119. Additionally, the VBC of Applicant's claim 1 is usable for "invoking a search execution business service." This limitation is also not disclosed as being a feature of the Nishizawa virtual table 119.

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Additionally, the Office Action does not distinctly point out any aspect of Nishizawa as corresponding to the **search execution business service** of Applicant's claim 1. Applicant does not find this limitation in Nishizawa. Based on the argument provided in the Office Action, it is not clear whether the Office Action is proposing that this limitation is met by the application manager 106, or by the query optimizer 108, or by the query generator 109, or by the virtual table manager 112, or by the virtual table 119 of Nishizawa. As can be seen from the cited reference itself, however, none of these Nishizawa components meets the limitation of a search execution business service.

The application manager 106 of Nishizawa can not be seen as the search execution business service of claim 1 because Nishizawa does not disclose that the application manager 106 is invoked using the virtual table 119 (the proposed analog of the VBC). Rather, the application manager 106 receives a query issued by an application 104 as a query from a client through the network, and the received query is transferred to the query optimizer 108. Nishizawa at 6:47-52.

The query optimizer 108 of Nishizawa also can not be seen as the search execution business service of claim 1 because Nishizawa does not disclose that the query optimizer 108 is invoked using the virtual table 119 (the proposed analog of the VBC). Rather, the query optimizer 108 in the Nishizawa data processing system uses the partial replica information managed by a partial replica manager 113 to judge whether partial replicas 125 stored in storage 120 of the data processing system can be used to process all partial queries. Nishizawa at 6:61-66.

The query generator 109 of Nishizawa also can not be seen as the search execution business service of claim 1 because Nishizawa does not disclose that the query generator 109 is

invoked using the virtual table 119 (the proposed analog of the VBC). Rather, the query

generator 109 rewrites a query so that partial replicas are referenced, and transforms queries to

real databases to conjunctive normal form. Nishizawa at 8:43-52; 9:34-35.

The virtual table manager 112 of Nishizawa also can not be seen as the search execution

business service of claim 1 because Nishizawa does not disclose that the virtual table

manager 112 is invoked using the virtual table 119 (the proposed analog of the VBC). Rather,

the virtual table manager has interface means to define a virtual table and to switch multiple

mapping to said virtual table. Nishizawa at 15:21-25. The virtual table manager also manages a

virtual table and provides virtual columns, on which multiple mappings are defined, with a

switching designation to select one of defined mappings. Nishizawa at 14:47-50.

The virtual table 119 of Nishizawa can not be seen as the search execution business

service of claim 1 because Nishizawa does not disclose that the virtual table 119 is invoked using

the virtual table 119 (the proposed analog of the VBC).

None of the proposed elements of Nishizawa corresponds to the VBC and the search

execution business service of claim 1. This is readily apparent in view of the fact that Nishizawa

does not provide the advantages that are available in various embodiments of the Applicant's

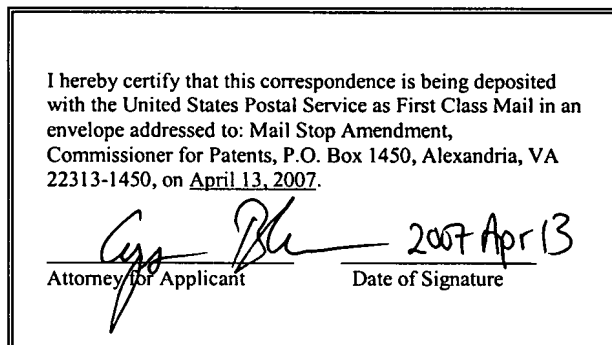invention that may be seen from Applicant's pending claims.

For example, Nishizawa does not teach the use of an abstraction layer in which a VBC

provides the ability for searches originating in one graphical user interface to be performed using

more than one database. As another example, Nishizawa does not teach an independence of

databases that provides an ability to access to a plurality of databases. For these reasons,

Nishizawa also falls short of disclosing the limitations of Applicant's claims 32-41.

With regard to Applicant's claim 1, the shortcomings of Nishizawa are not remedied in

Kessenich or in Whitman. Thus, at least for this reason, independent claim 1 and all claims

dependent therefrom are allowable under § 103(a). At least for similar reasons, independent

claims 10, 16, 21, and 27, and all claims dependent therefrom are also allowable under § 103(a).

Accordingly, Applicant respectfully requests that the rejections under § 103(a) be withdrawn.

CONCLUSION

In view of the remarks set forth herein, the application is believed to be in condition for

allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that

might be subject to resolution through a telephonic interview, the Examiner is invited to

telephone the undersigned.

Respectfully submitted,

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 13, 2007.

_____ 2007 Apr 13
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